

## Notes on the Fauna of a Small Western Plains Woodland Remnant near Winchelsea, Victoria.

L.E. Conole\*

### Abstract

Casual and limited observations were made of fauna occurring in a small woodland remnant on the western plains near Winchelsea, Victoria. The woodland includes one of the last identifiable remnants of the Drooping She-oak (*Allocasuarina verticillata*) community that previously occurred along the coastal plains/volcanic plains ecotone east to Port Phillip Bay at Williamstown (Damien Cook pers. comm.). The remainder is grassy woodland of Manna Gum (*Eucalyptus viminalis*) and Sweet Bursaria (*Bursaria spinosa* var. *macrophylla*). A total of 16 species of ants, eight species of butterflies, five species of frogs, two species of reptiles, 37 species of birds and six species of mammals were recorded. These preliminary results indicate the potential value of small, isolated, native vegetation remnants for biological conservation, and point to the continuation of natural ecological processes in such small remnants.

### Introduction

The landscape between Geelong and Winchelsea has been comprehensively cleared for agriculture since European settlement. Areas of remnant natural vegetation are few, and are clustered around natural topographical features such as the Barwon River, and constructed features such as rail lines and roads. These remnant natural vegetation communities are valuable sites for the continued survival and conservation of indigenous plant and animal species. Native grassland and grassy woodland are the most threatened ecosystems in Australia, and only 0.5% of the original extent

of these grassy ecosystems remain in Victoria (Lunt 1991).

The brief investigation of biological resources of a block of grassy woodland near Winchelsea reported herein, was conducted in support of a local community's desire to see the privately owned block transferred into public ownership as a conservation and education reserve.

This 2.8 hectare linear block of grassland and grassy woodland lies 6 kilometres east of Winchelsea on the Princes Highway, at the junction with Buckley School Road at the base of the road bridge over the Geelong-Warrnambool rail line. At the western end, a large area now covered with Kangaroo Grass (*Themeda triandra*) (similar to the adjacent rail reserve) was scraped during the building of the road bridge. Progressing east through an area of Manna Gum (*Eucalyptus viminalis*) woodland with scattered Sweet Bursaria (*Bursaria spinosa* var. *macrophylla*), Black Wattle (*Acacia mearnsii*) and Silver Wattle (*A. dealbata*), the eastern end has denser woodland in the form of an almost pure stand of Drooping She-oak (*Allocasuarina verticillata*). An ephemeral wetland on the rail reserve encroaches slightly onto the block, and contains such characteristic aquatic species as Water-milfoil (*Myriophyllum elatinoides*). A more exhaustive description of the vegetation can be found in Conole, Cook, Lynch and Stewart (in preparation).

### Survey Methods

Casual observations and brief searches for fauna in the block were conducted on 21 July, 13 October and 22 November 1991, 22 November 1992 and 28 January 1993 (Table 1). Birds seen and heard in

\* 2/45 Virginia Street, Newtown, Vic, 3220

Table 1. Species Recorded

<b>CLASS INSECTA</b>	
<b>ORDER HYMENOPTERA</b>	
<b>FAMILY FORMICIDAE</b>	
<b>SUB-FAMILY MYRMECINAE</b>	
<i>Myrmecia</i> cf. <i>rectidans</i> ('nandibularis' GROUP)	
<i>Myrmecia pyriforcus</i> Bulldog Ant	
<i>Myrmecia 'pilosula'</i> Jumping Jack	
<b>SUB-FAMILY PONERINAE</b>	
<i>Rhytidoponera tasmaniensis</i>	
<i>Rhytidoponera victorae</i>	
<i>Trachymesopus</i> sp.	
<b>SUB-FAMILY MYRMICINAE</b>	
<i>Crematogaster</i> sp.	
<b>SUB-FAMILY FORMICINAE</b>	
<i>Campanotus 'consobrinus'</i> Sugar Ant	
<b>SUB-FAMILY DOLICHODERINAE</b>	
<i>Dolichoderus 'australis'</i>	
<i>Dolichoderus 'scabridus'</i>	
<i>Iridomyrmex</i> sp.	
<i>Iridomyrmex 'purpureus'</i> Meat Ant	
<i>*Iridomyrmex humilis</i> Argentine Ant	
<i>Iridomyrmex 'bicknelli'</i>	
<i>Iridomyrmex 'joetani'</i>	
<i>Tectiomyrmex</i> sp.	
<b>ORDER LEPIDOPTERA</b>	
<b>FAMILY NYMPHALIDAE</b>	
<i>Vanessa itea</i> Australian Admiral	
<i>Vanessa kershawi</i> Australian Painted Lady	
<i>Junonia villida</i> Meadow Argus	
<i>Heteronympha ueropa</i> Common Brown	
<b>FAMILY PIERIDAE</b>	
<i>*Pieris rapae</i> Cabbage White	
<i>Anaphaeis java</i> Caper White	
<b>FAMILY LYCAENIDAE</b>	
<i>Paralucia aurifera</i> Bright Copper	
<i>Zizina labradus</i> Common Grass Blue	
<b>CLASS AMPHIBIA</b>	
<b>ORDER SALIENTA</b>	
<b>FAMILY HYLIDAE</b>	
<i>Litoria ewingii</i> Southern Brown Tree-Frog	
<b>FAMILY MYOBATRACHIDAE</b>	
<i>Crima signifera</i> Common Eastern Froglet	
<i>Limnodynastes dumerilii</i> Pobblebonk	
<i>Limnodynastes tasmaniensis</i> Spotted Marsh Frog	
<i>Limnodynastes peronii</i> Striped Marsh Frog	
<b>CLASS REPTILIA</b>	
<b>ORDER SQUAMATA</b>	
<b>FAMILY SCINCIDAE</b>	
<i>Tiliqua scincoides</i> Common Blue-tongued Lizard	
<i>Pseudemoia guttescaerulea</i> Tussock Skink	
<b>CLASS AVES</b>	
<i>White-faced Heron</i> <i>Ardea novaehollandiae</i>	
<i>Straw-necked Ibis</i> <i>Threskiornis spinicollis</i>	
<i>Great Cormorant</i> <i>Phalacrocorax carbo</i>	
<i>Little Pied Cormorant</i> <i>Phalacrocorax melanoleucos</i>	
<i>Australian Shelduck</i> <i>Tadorna tadornoides</i>	
<i>Black Swan</i> <i>Cygnus atratus</i>	
<i>Brown Falcon</i> <i>Falco berigora</i>	
<i>Australian Kestrel</i> <i>Falco cenchroides</i>	
<i>Black-shouldered Kite</i> <i>Elanus notatus</i>	
<i>Stubble Quail</i> <i>Corvinix novaehollandiae</i>	
<i>Yellow-tailed Black-Cockatoo</i> <i>Calyptorhynchus funereus</i>	
<i>Sulphur-crested Cockatoo</i> <i>Cacatua galerita</i>	
<i>Long-billed Corella</i> <i>Cacatua tenuirostris</i>	
<i>Galah</i> <i>Cacatua roseicapilla</i>	
<i>Red-rumped Parrot</i> <i>Psephotus haematotus</i>	
<i>Crimson Rosella</i> <i>Platycercus elegans</i>	
<i>Eastern Rosella</i> <i>Platycercus eximius</i>	
<i>Welcome Swallow</i> <i>Hirundo neoxena</i>	
<i>*Skylark</i> <i>Alauda arvensis</i>	
<i>Black-faced Cuckoo-shrike</i> <i>Coracina novaehollandiae</i>	
<i>*Blackbird</i> <i>Turdus merula</i>	
<i>Willie Wagtail</i> <i>Rhipidura leucophrys</i>	
<i>Grey Shrike-thrush</i> <i>Colluricincla harmonica</i>	
<i>Superb Fairy-wren</i> <i>Malurus cyaneus</i>	
<i>Yellow-rumped Thornhill</i> <i>Acanthiza chrysorrhoa</i>	
<i>White-plumed Honeyeater</i> <i>Lichenostomus penicillatus</i>	
<i>Yellow-faced Honeyeater</i> <i>Lichenostomus chrysops</i>	
<i>Red Wattlebird</i> <i>Anthochaera carunculata</i>	
<i>Noisy Miner</i> <i>Manorina melanoccephala</i>	
<i>Red-browed Firetail</i> <i>Emblema temporalis</i>	
<i>*House Sparrow</i> <i>Passer domesticus</i>	
<i>*European Goldfinch</i> <i>Carduelis carduelis</i>	
<i>*Common Starling</i> <i>Sturnus vulgaris</i>	
<i>Australian Magpie-lark</i> <i>Grallina cyanoleuca</i>	
<i>Australian Magpie</i> <i>Gymnorhina tibicen</i>	
<i>Australian Raven</i> <i>Corvus coronoides</i>	
<i>Little Raven</i> <i>Corvus mellori</i>	
<b>CLASS MAMMALIA</b>	
<i>Common Brushtail Possum</i> <i>Trichosurus vulpecula</i>	
<i>*Brown Rat</i> <i>Rattus norvegicus</i>	
<i>*European Rabbit</i> <i>Oryctolagus cuniculus</i>	
<i>*Fox</i> <i>Vulpes vulpes</i>	
<i>*Cat</i> <i>Felis catus</i>	
<i>White-striped Mastiff-bat</i> <i>Tadarida australis</i>	

the block were noted, as were those flying overhead. Mammals were detected both directly and by indirect signs such as skeletal remains, scats and vocalisation recognition. Reptiles and amphibians were found under rocks and timber, or by vocalisation recognition. Butterflies were hand caught or recognised in flight, and

identified using the standard reference of Common and Waterhouse (1982). Collections of ants were made in October 1991 and November 1992, and identified using Anderson (1991) for most taxa, and Clark (1951) for finer resolution of the Myrmecinae. Some reference was also made to Greenslade (1979).

## Discussion

These results are clearly an incomplete inventory of the fauna of the block, as comparatively little survey effort was expended, and no spotlight survey or live trapping was included. It is equally clear though that a number of native fauna species utilise this 2.8 hectare block in some way, including some that only visit for foraging purposes. Little can be concluded from these results other than that the block represents an important island of semi-natural habitat in a vast agricultural area.

The total of 37 species of birds recorded is higher than the average of 30 species for blocks of 2 to 20 hectares in the Geelong area (Conole in preparation). However, the proportion of farmland and wetland birds is higher at this block than at others surveyed.

Birds such as Yellow-tailed Black-Cockatoos visit from the Otway Ranges to the south to feed on fruit of the Drooping She-oak, and other parrots roost in trees on the block. The Common Brushtail Possum is probably a resident, although the aerial feeding White-striped Mastiff-bat and Welcome Swallow may only forage overhead, perhaps roosting elsewhere. The White-faced Heron and Straw-necked Ibis forage in the small wetland, and like other transient visitors such as the Grey Shrike-thrush and Red Wattlebird, are not resident there. White-plumed Honeyeaters are present most of the time, as are the ubiquitous Noisy Miners. The frogs and reptiles are resident, as are most of the insects. There are ongoing natural ecological processes occurring within the remnant grassy woodland ecosystem of the block.

The element of the fauna that has the greatest potential as an indicator of the degradation of the ecosystem, and of monitoring its condition in future, is the ant fauna. I recorded 16 epigaeic species in approximately 2.5 hours of searching on the ground for worker ants, but made no attempt to survey nocturnal, arboreal or cryptic species. Using methods such as

those described by Anderson (1990) to evaluate change in terrestrial ecosystems would be a viable technique for evaluating and monitoring environmental change at the Winchelsea block, as ants are easily collected and lend themselves especially well to the monitoring task. Two species of *Rhytidoponera* were detected during the survey, and this genus is a particularly sensitive indicator of disturbance (Anderson 1990). However, *Myrmecia* which seems less suited to highly disturbed environments is still represented by at least three species (*M. rectigans*, *M. pyriformis*, *M. pilosula*).

A co-ordinated effort by local residents (with support of the landowner), Colac region of the Department of Conservation and Natural Resources and the Victoria Conservation Trust is proceeding to have the block acquired as a Crown Land nature conservation reserve. The Fauna Survey Group assisted this effort by surveying the biota on the block.

## Acknowledgements

This project was suggested to the Fauna Survey Group (FSG) by Steve Smith, Flora and Fauna Guarantee Officer, Department of Conservation and Natural Resources, Colac.

Project Manager for the FSG was Lawrie Conole. Assistance to the project manager in vertebrate survey was provided by Russell Thompson, Alex Kutt and Peter Lynch. Invertebrates surveyed by Lawrie Conole. Flora survey by Damien Cook, Peter Lynch, Jason Stewart with assistance from Felicity Garde and Andrea Dennis.

## References

- Anderson, A.N. (1990). The use of ant communities to evaluate change in Australian terrestrial ecosystems: a review and a recipe. *Proceedings of the Ecological Society of Australia* 16: 347-357.
- Anderson, A.N. (1991). *The Ants of Southern Australia* (CSIRO: Melbourne.)
- Clark, J. (1951) *The Formicidae of Australia, Volume 1, Subfamily Myrmecinae* (CSIRO: Melbourne.)
- Common, I.F.B. and Waterhouse, D.F. (1982) *Butterflies of Australia (Field Edition)*. (Angus & Robertson: Sydney.)
- Conole, L.E. (in prep.). Birds of grassy woodland remnants in the Geelong area, south-west Victoria.
- Conole, L.E., Cook, D., Lynch, P. and Stewart, J. (in preparation). Notes on the flora of a small western plains woodland remnant near Winchelsea, Victoria.
- Greenslade, P.J.M. (1979) *A Guide to Ants of South Australia* (South Australian Museum: Adelaide.)
- Lunt, I.D. (1991). Management of remnant lowland grasslands and grassy woodlands for nature conservation: a review. *The Victorian Naturalist* 108(3): 56-66.